REMARKS

Entry of this response and reconsideration and allowance of the above-identified patent application are respectfully requested. Please note that a supplemental information disclosure statement (SIDS) has been filed concurrently with the present response. The Examiner is respectfully requested to consider and initial the cited references. Also, the Examiner is respectfully requested to consider, and initial the cited references previously submitted on September 24, 2004 and November 15, 2004

Claims 1-20 are currently pending in this application. By this amendment, claims 1-20 are amended. No claims have been added. No claims have been canceled. No new matter is added. Applicant respectfully submits that, upon entry of the subject amendment, the application will be in condition for allowance. Applicant, thus, respectfully requests consideration of the above amendment and following remarks.

Claim 1-4, 7-8, 11-14, and 17-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. 2002/0105413 to Cern ("Cern") in view of U.S. Pat. No. 4,070,572 to Summerhayes ("Summerhayes"). Claims 5-6, 9, and 15-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cern in view of Summerhayes and in further view of U.S. Pat. No. 4,017,845 to Killian ("Killian"). Claims 10 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cern in view of Summerhayes further in view of U.S. Pat. No. U.S. 3,942,170 to Whyte ("Whyte"). Finally, claim 1 stands provisionally rejected under the judicially created doctrine of double patenting as being unpatentable over claim 1 of co-pending Appl. No. 10/429,338.

Claims 1 and 11 have been amended to clarify that the fiber optic isolator includes a fiber optic cable and is configured to isolate power transmission line voltages that may be conducted to said fiber optic cable. Thus, if the power line voltages were conducted to the fiber optic cable, which could happen should the inductive coupling mechanism fail, the fiber optic cable would not conduct the power line voltages (thereby isolating them). The claims have been amended to correct a claim numbering error, for example, "[C5]" to "5". Claims 1, 8, 11, and 18 have been

amended to remove reference to a light pipe, which is redundant with a fiber optic cable. Claim 20 has been amended to remove reference to the light pipe, which may not be protected by the weather-proof enclosure.

Applicant would like to thank Examiner Boutsikaris for conducting an in-person interview with applicant's representative. Applicant's representative and Examiner Boutsikaris discussed the disclosure of the art relied upon in the office action in comparison with the claimed invention. The interview was helpful in facilitating and progressing the prosecution of the present application.

Briefly, the present invention forms part of power line communications system that may communicate data signals via medium voltage (MV) or other high voltage power lines. As discussed with the Examiner, one of the more challenging aspects of communicating data via such power lines is coupling the data signals to and from the power line while also isolating the high voltage power signals. The present invention provides of method of communicating data over power lines that ensures isolation of the power line voltages. In one embodiment, the method may comprise coupling and un-coupling high-frequency electrical data signals with a first power transmission line by inductance, conditioning said coupled and un-coupled high-frequency electrical data signals, and coupling and un-coupling high-frequency electrical data signals to a first end of a fiber-optic cable using a light transducer. The fiber optic cable is configured to isolate power transmission line voltages that may be conducted to the fiber optic cable.

Thus, the present invention includes two means of power line voltage isolation. The first includes coupling and un-coupling high-frequency electrical data signals with a first power transmission line by inductance and the second includes coupling and un-coupling high-frequency electrical data signals to a first end of a fiber-optic cable. In other words, both coupling and un-coupling via inductance and communicating via the fiber optic cable provide isolation of the power line voltages. If the mechanism(s) for coupling and un-coupling the data signals to and from the power line by inductance were to fail (*e.g.*, short circuit), the fiber optic cable may still provide isolation of the power line voltages.

The pending claims standing rejected under 35 U.S.C. § 103(a) as being unpatentable over Cern in view of Summerhayes, and in some instances, in view or one or more other references. The office action states that Cern discloses coupling and de-coupling using an inductive means, conditioning the data, and coupling the data to an optical isolator. (*Office Action dated November 19, 2004 at pages 2-3.*) However, the office action recognizes that Cern does not specify that the optical isolator is a fiber optic cable.

Applicant submits that Cern fails to even recognize the need for a second means of isolating power line voltages and that the optical isolator disclosed by Cern does not teach or suggest the use of a fiber optic cable or isolating power line voltages. When describing the advantages of the system, Cern discloses using an optical isolator at paragraph 126, which reads: "The noise of the LV grid does not reach the MV grid. Isolation can further be enhanced by optical isolators in series with the data connection 1210." It is clear from this paragraph that the optical isolator of Cern is for isolating noise as opposed to providing a means isolating the power line voltages. Applicant submits that optical isolators as described in Cern, which are commonly in semiconductor form, are a well-known means of providing noise isolation, but would be insufficient to provide isolation of power line voltages. Consequently, the mention of optical isolators in Cern does not teach or suggest the use of a fiber optic cable that is sufficient to isolate power line voltages as claimed. Thus, Cern discloses only a single means of providing isolation from the power line voltages, namely, an inductive coupler

The office action also relies on Summerhayes for disclosure of a fiber optic cable. However, like Cern, Summerhayes discloses only a single means of providing isolation from the power line voltages, which is a fiber optic cable. Furthermore, Summerhayes does not disclose communicating data over a power line. Summerhayes is directed to using a fiber optic cable to transmit sensed current data and applicant submits that it is inappropriate to combine Summerhayes and Cern.

In addition, neither Cern nor Summerhayes recognizes the need for more than one means of isolating the power line voltages. Consequently, applicant

submits that there is no motivation to combine the teachings of Cern and Summerhayes, which is required for combining references to reject claims under 35 U.S.C. § 103(a).

Finally, as discussed, claim 1 stands provisionally rejected under the judicially created doctrine of double patenting as being unpatentable over claim 1 of co-pending U.S. Appl. No. 10/429,338. Applicant respectfully requests that the Examiner hold the provisional rejection of claim 1 in abeyance pending the allowance of claim 1 in U.S. Appl. No. 10/429,338 or claim 1 in this application. If and when claim 1 of either case is allowed, applicant may submit a terminal disclaimer in the other case to overcome the double patenting rejection.

Accordingly, applicant respectfully asserts that independent claims 1 and 11 are patentable over the prior art and respectfully requests allowance thereof. In addition, because a claim that is dependent from a patentably distinguishable claim is also patentably distinguishable, applicant respectfully requests allowance of claims 2-10, which depend from claim 1, and claims 12-20, which depend from claim 11.

CONCLUSION

In view of the foregoing, applicant respectfully submits that the claims are allowable and that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Vincent J. Roccia at (215) 564-8946, to discuss resolution of any remaining issues.

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